MAXIMAL 3040

SERVICE MANUAL

MODEL TM-322LS

STEREO CASSETTE RECORDER
WITH LW/MW/SW/FM/FM MPX 4-BAND RADIO
PORTABLE STEREO COMPONENT

(10W/DIN TYPE)

ECIFICATIONS

This tentative specification describes the electrical & mechanical characteristic of AC-DC operated portable stereo cassette tape recorder with MW/FM/SW/LW FM MPX radio auto shut Off mechanism and Built-In condenser microphone.

MECHANICAL SPECIFICATIONS

1. Motor Drive System. . . . . .Capstan Motor
2. Push Button . . . . . Pause; Stop & Ejector; F.F & Cue; Play; Rew & Review; Rec.
3. Applicable Tape . . . . . .Philips Cassette Tape
4. Tape speed. . . . . 1 7/8 I.P.S.
5. Wow & Flutter . . . . . .0.30% (W.R.M.S.)
6. F.F. & REW. Time (With C-60) With in 80 Second
7. Circuit . . . . . .11 IC 14 Transistors, 10 Diodes, 25 LED, 2 (or 4) Silicon Rectifier
8. Auto shut off . . . . . Mechanical
9. Microphone . . . . . Condenser Microphone

ELECTRICAL SPECIFICATIONS

Test methodes are based on I.R.E. standard.
The supply voltage used for tests is DC volts constant.
Tesrs are made at a room temperature of 20°C.

1. Power Supply . Ac (220V; 240V 50Hz) 120V/240V 60/50 Hz & Battery ("D" Cell 8 pcs)
2. Recording system . . . . . .ALC Recording, AC Bias, AC Erase
3. Capstan Motor Mechanical Governer Speed Control
4. Head. . . . . Half track AC bias REC/PLAY head Half track AC Erase head
5. 10% T.H.D. Power. 8000mW
6. P/B" 500mW Dist. 1KHz 3.0%
7. Hum & Noise
   Volume Minimum 3mV
   Volume Maximum. 50mV
8. Frequency Response 125 Hz–8KHz
   (R/P. & P/B). . . . . +4dB – -8dB
9. Signal to noise Ratio
   PLAY/Back 46dB
   REC/PLAY 38dB
10. R/P. Distortion . . . . . .T.H.D. (at 1,000Hz) 5%
11. Erase Ratio 50dB
12. Input Sensitivity . . . . . +3±2mV
    MIC. Input. . . . . -70dB
    AUX. Input . . . . . -20dB

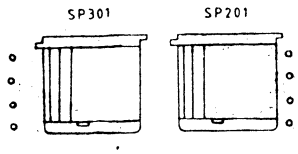
MW RADIO SPECIFICATIONS

1. Frequency Range 540–1605KHz
2. IF. . . . . 470KHz±5KHz
3. S/N 6dB Sensitivity 52dB
4. S/N 20dB Sensitivity 58dB
5. S/N Radio (1mV/M) 25dB
6. ACA (At max 1000KHz) . . . . . ±17dB
7. Distortion . . . . . (At 5,000 uV/M 30% MOD) 4%
8. IF rejection (At 600 KHz). 27dB
9. RF rejection (At 1,400 KHz). 35dB
10. Band Width (at 6dB) down 4.5–9KHz
11. Fidility (At 6dB down). High. 150–2200Hz
12. Redio whistle. 1KuV/M, ... 16/10%
    10KuV/M 8/5%
    100KuV/M. 16/10%
13. MOD. Hum 40dB

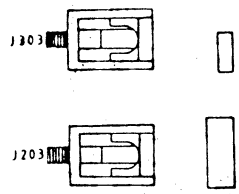
FM STEREO SPECIFICATIONS

1. S/N 30dB Sensitivity 30dB
2. Stereo Strike (At 1KHz) 36dB
   (45%+45%) Mod, Pilot 19KHz 10% Mod.
3. Separation (At 40dB/60dB) 20/26dB
   (45%+45%) Mod, Pilot 19KHz 10% Mod.
4. Separation (100 Hz/1 KHz/8 KHz) 24/26/16dB
   (At 98MHz, 60dB Input)
5. Distortion (At 98MHz, 60dB Input) 4%
6. Channel Output Difference 3dB
7. Stereo Sparation Stoping Voltage. . . . . ≤8.4V

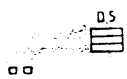
EXT SP. JACK



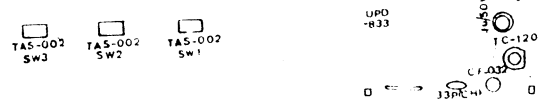
MIC JACK



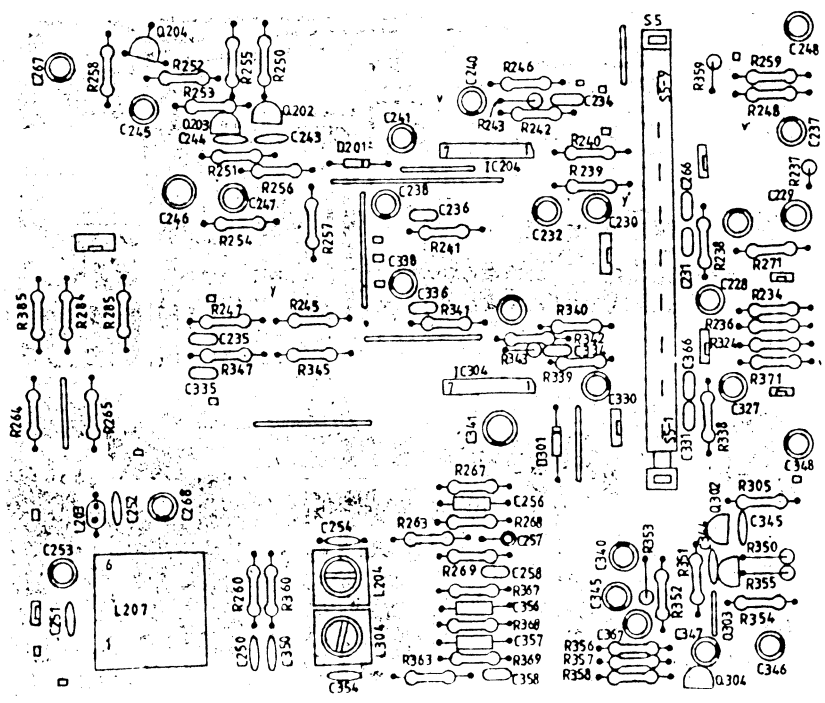
STEREO LED



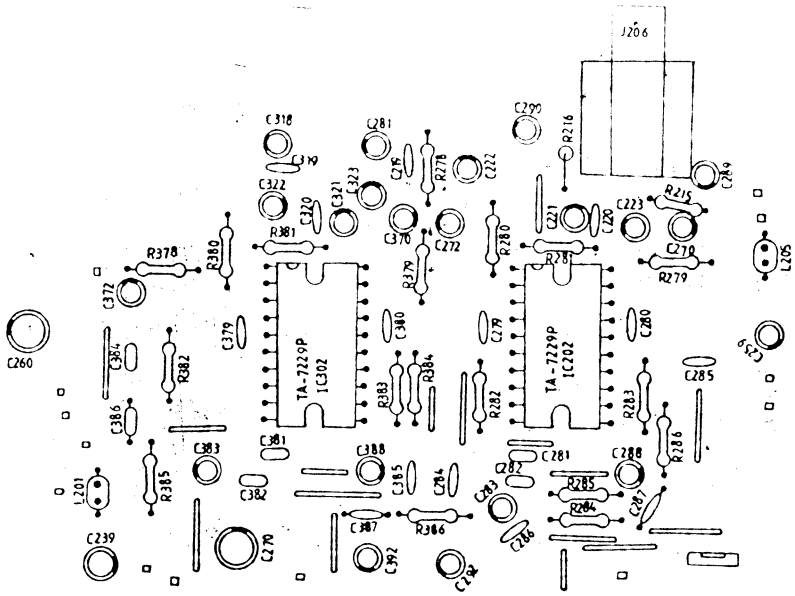
CLOCK



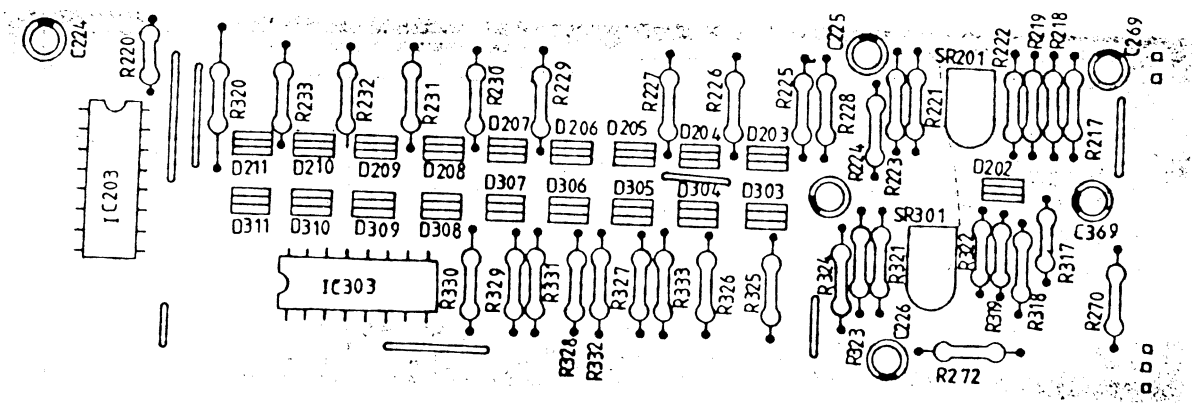
PRE AMP



POWER

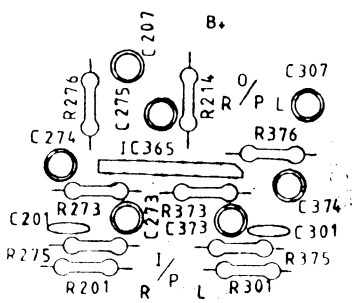


LEVEL LED

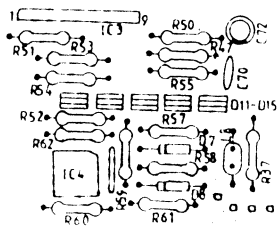


PHONO

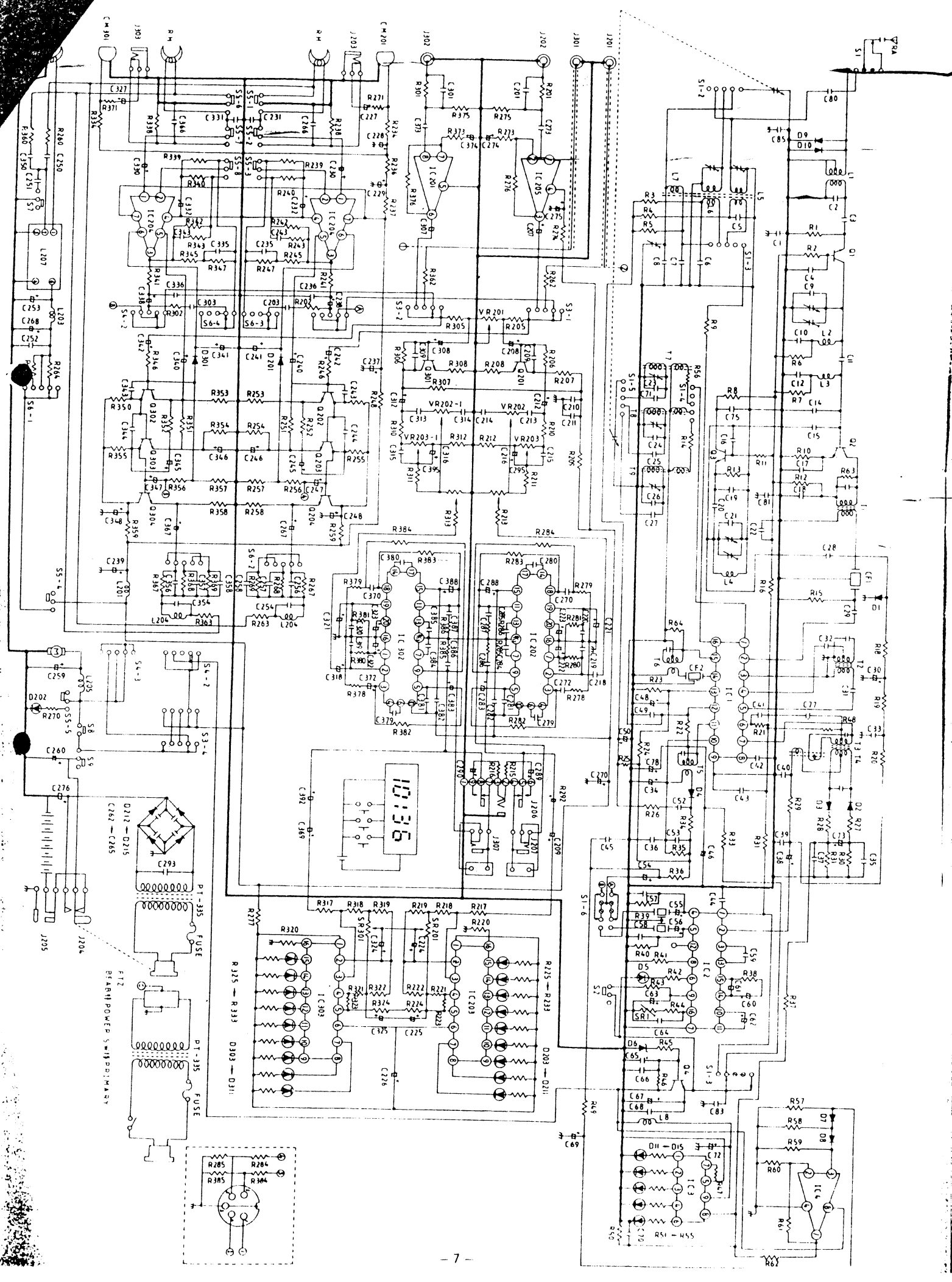
IC-BA328



TUNING INDECTOR LED



SCHEMATIC DIAGRAM



Circut Voltage Recording Current Test And Adjustment Information

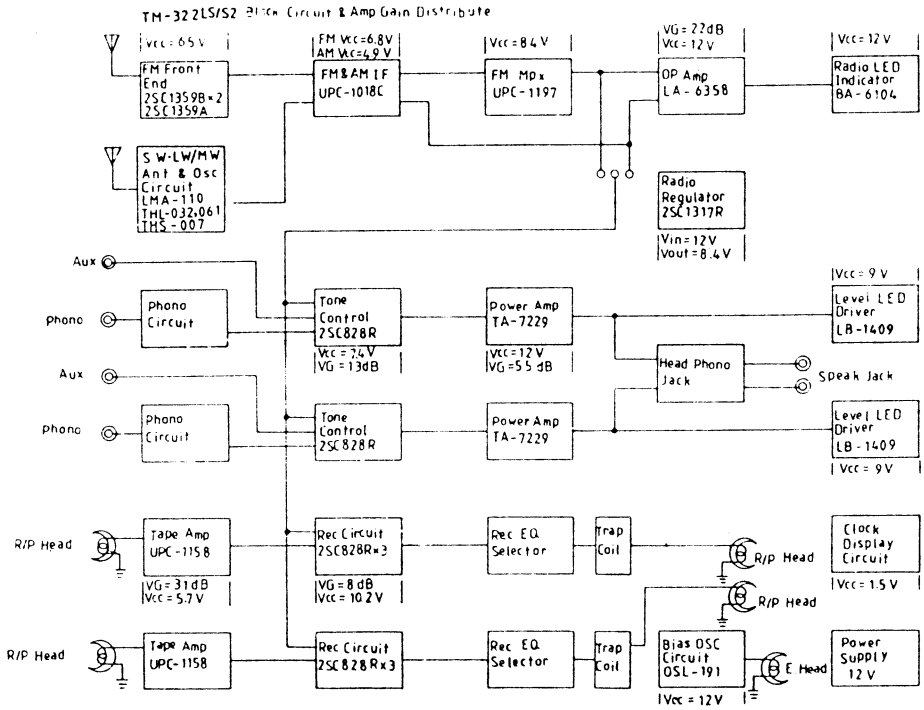
Unit Vol

	B	C	E
Q1 2SC1359B	2.6	5.7	1.9
Q2 2SC1359B	2	6	1.36
Q3 2SC1359A	2.4	4.9	1.9
Q4 2SC1317R	9.2	12	8.5
Q201 2SC828R	0.7	4	0.1
Q301 2SC828R	0.7	4	0.1
Q202 2SC828R	0.8	2	0.14
Q302 2SC828R	0.8	2	0.14
Q203 2SC828R	6.7	5.9	10.2
Q303 2SC828R	6.7	5.9	10.2
Q204 2SC828R	2	6.7	1.26
Q304 2SC828R	2	6.7	1.26

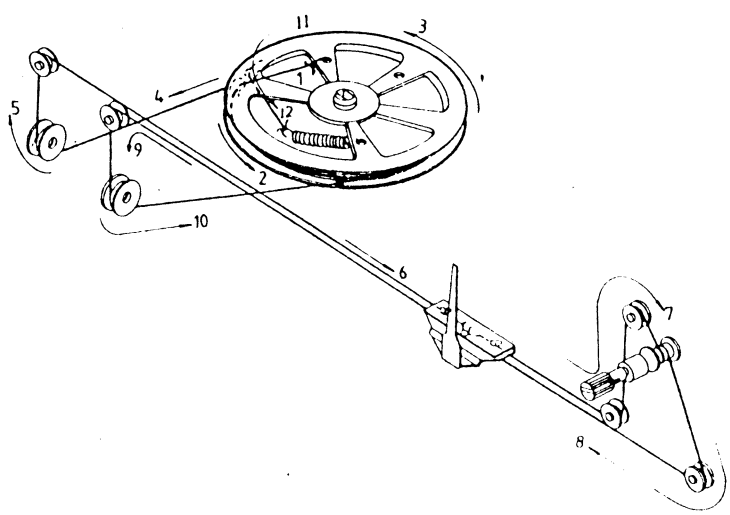
Unit Vol.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC1 UPC-1018	FM	0.2	0.7	0	3.3	4	5.2	6.8	4	0	0	0	0	0	0	0	0
	AM	4.2	0	0	0	0	0	0	0	0	0.7	4.9	4	0.8	0.7	4	4.2
IC2 UPC-1197		8.5	1.3	1.8	1.3	1.3	0.6	0	0.3	0	1.7	1.6	1.2	1.67	1.67	1.67	1.86
IC3 BA-6104		ON:10.5 OFF:0				0	same 1-4	0.6	0.5	11.4							
IC4 LA-6458		0.15	0.015	0.015	0	3	0	0	12								
IC202 LA-4185T		0	11.6	6	12	0	11.6	6	0	0.56	0	12	0	0	0.56		
IC203 LB-1409		ON:3 OFF:2	2.6	0	0	0	0	ON:0 OFF 7.7									ON:3.6 OFF:4.5
IC204 UPC-1158		1.3	0.8	1.8	0	0	0	5.7									
IC205 BA-328		1.38	0.89	1.16	4.54	0	1.16	0.89	1.38								

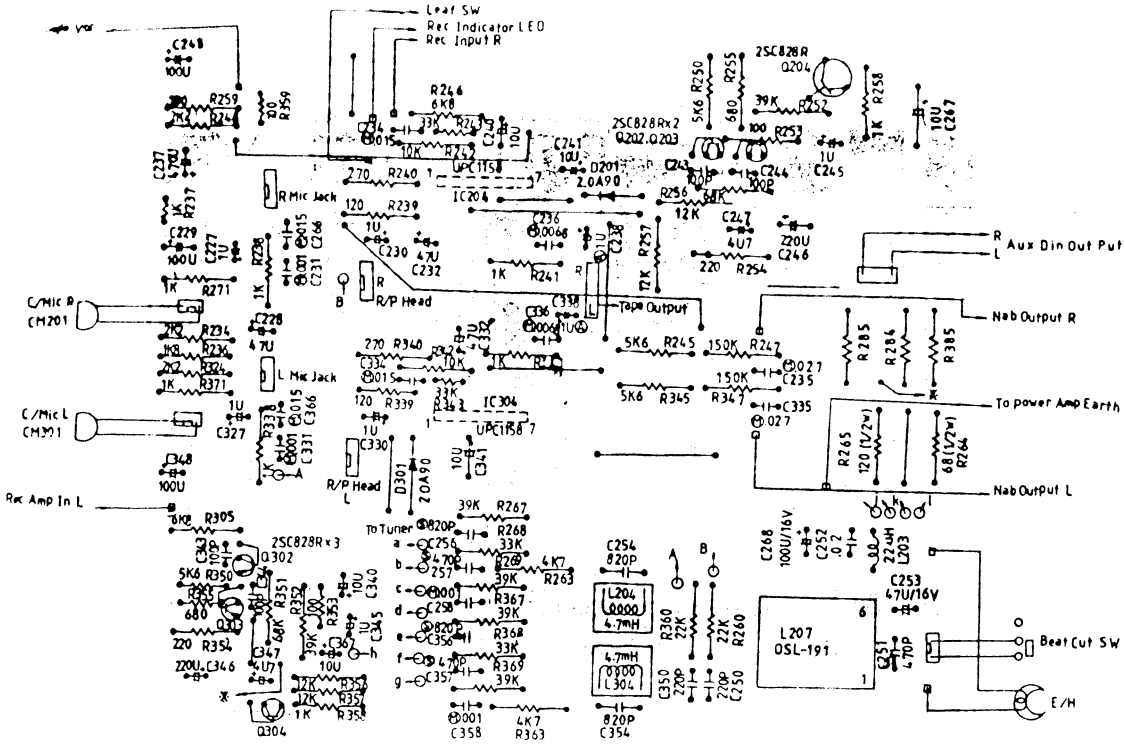
BLOCK CIRCUIT & AMP GAIN DISTRIBUTE



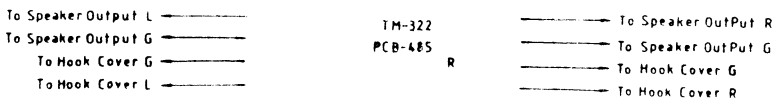
DIAL CORD STRINGING



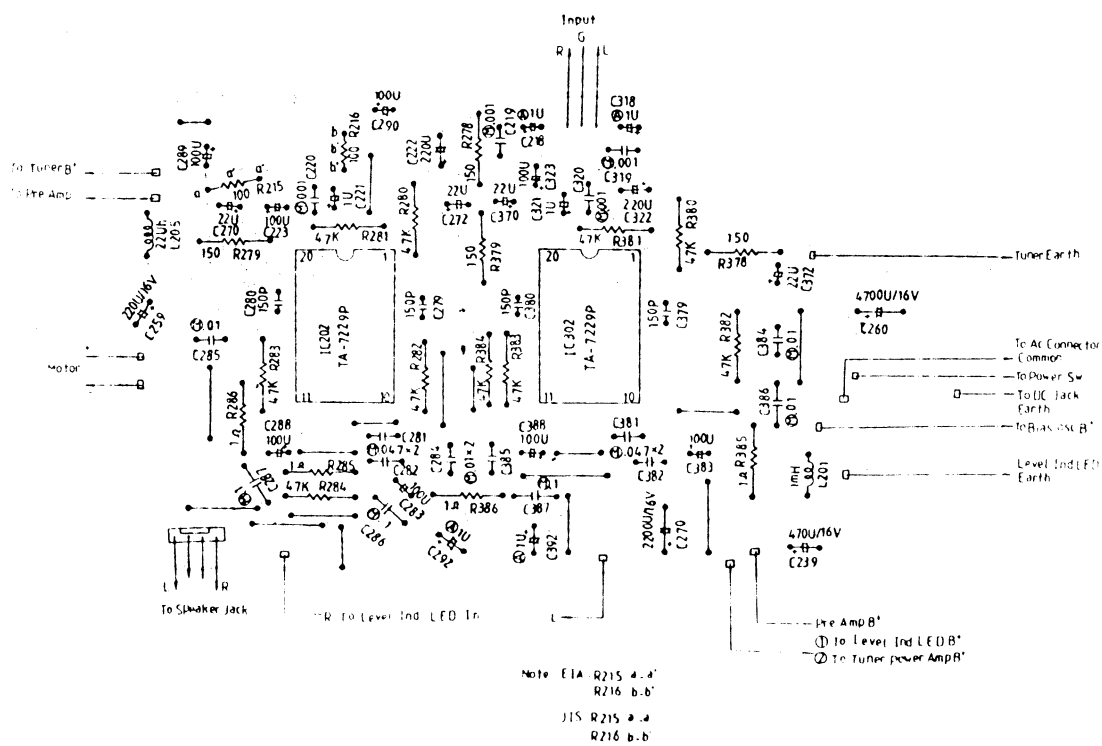
PRE AMP P. C. B.



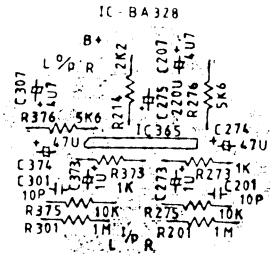
EXT SP JACK



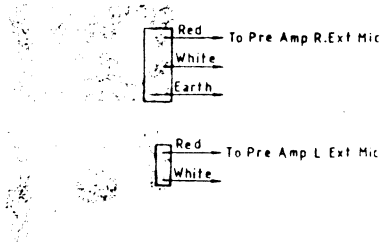
POWER P.C.B



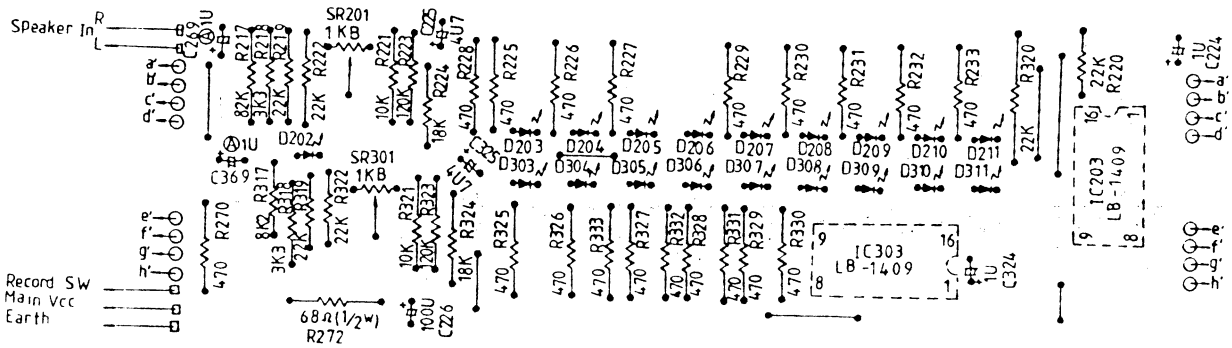
PHONO P.C.B.



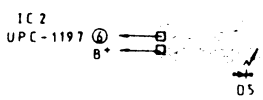
MIC JACK P. C. B.



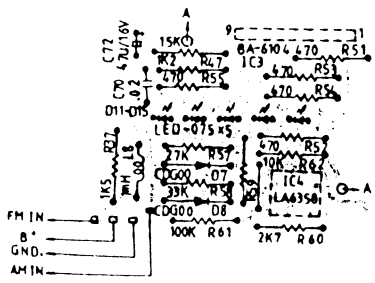
LEVEL LED P.C.B



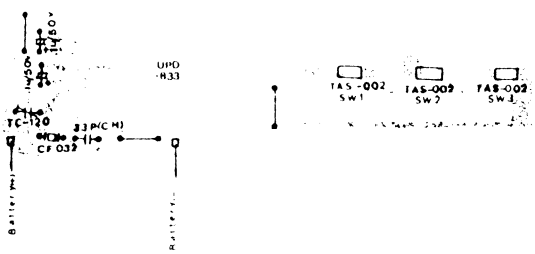
EXT SP JACK P.C.B.



TUNING INDECTOR LED P. C. B.

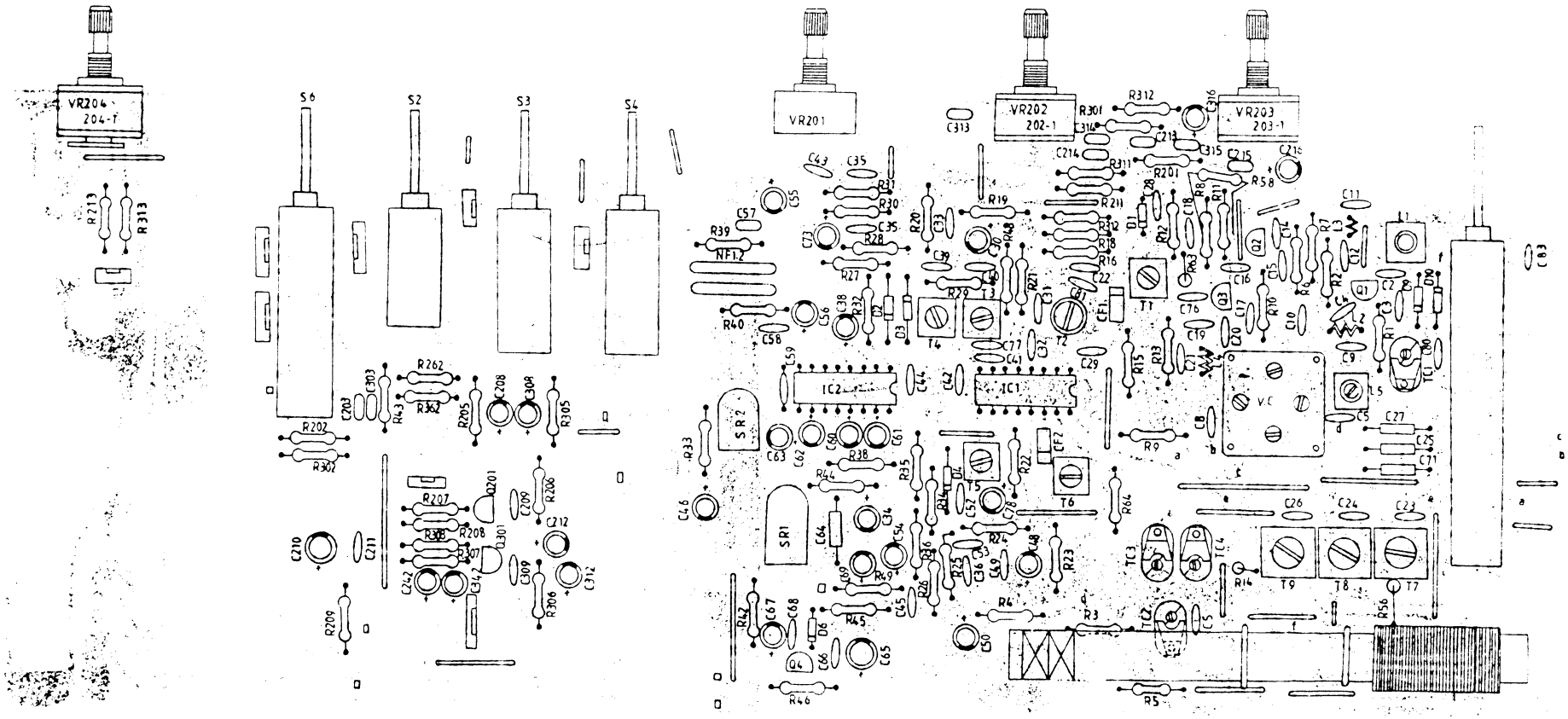


CLOCK P.C.B



P.C. BOARD PARTS LOCATION

TUNER



P.C. BOARD DIAGRAM

TUNER P. C. B.